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The Causalities of the Tax Incidence and the Modeling of Tax Processes

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Abstract

Taxation is at the heart of citizens' relationship with the State. Taxes have significant effect on individual population groups, and become an important political tool as well. Nevertheless, although most countries have adopted similar principles for the operation of their tax system, there remain many differences in the way it is implemented. There are a number of variations in the application of value added taxes and other consumption taxes, including different interpretation of the same or similar concepts. This article is focused on the analysis of the opinions of different groups of inhabitants on the size of the value added tax, on the size of the real estate tax, on the issue of complicated system with lots of exceptions, and on the issue of frequent changes in taxes. The analyzed issue is a part of a broader context which has been solved within the project of specific research conducted by the team from the Department of Economics, Faculty of Informatics and Management, University of Hradec Králové, called "The Causalities of Tax Incidence and the Modeling of Tax Processes". This project follows another project of specific research called "The Causalities of Tax Incidence", while the data from this project have been used for the analysis within this article. Most public finance economists acknowledge that nominal tax incidence is not necessarily identical to actual economic burden of the tax, but disagree greatly among each other on the extent to which market forces disturb the nominal tax incidence of various types of taxes under various circumstances.

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1. Introduction

Developed economies should base on the fact that taxes are not just the source of income into the state budget but they also have important social and other functions. By means of tax collecting the desirable behaviour of consumers can be stimulated. If the tax imposition is too big, it can be expected that people will not be able to get a house, to bring up children, they will reduce their consumption and economies will get worse by Bronchi and Burns (2001). Therefore, it is important to find the optimal amount of taxation, so that people can cope with paying taxes and do not aim towards tax evasion. A bigger consumption can bring positive results. We can expect that more money will get into the economy, which will improve macroeconomic ratios, business environment and thanks to that businesses can increase their productivity. They will sell more products or provide more services by Dušek and Janský (2012).

The majority of tax burden analyses are focused on the incidence of direct taxes, but neither in tax theory nor in practice the impact and comparison of the rate change of indirect tax on respective income groups of population is sufficiently analyzed. The typical tax of this kind is the value added tax by Slintáková and Klazar (2010).

For this reason the research team in the Department of Economics at FIM UHK introduced the idea of the project "The Causalities of Tax Incidence", which they have been working on since 2011 by Hájek et al. (2013).

In 2014 we continue with the research within the project "The Causalities of Tax Incidence and the Modeling of Tax Processes". The main objective of this project is to prove the hypothesis that the decrease of VAT rates would ultimately result in the increase in tax revenue. This main hypothesis is based on partial hypotheses:

- inhabitants of the Czech Republic consider VAT rates too high and therefore discouraging from consumption
- the decrease in VAT rates would lead to a bigger volume of purchased goods and services.

Based on the above mentioned facts, the presented paper deals with the analysis of the questionnaire survey where respondents express their opinion on the tax system and evaluate its main problems.

Value added tax as a classic representative of an indirect tax burdens in the final result the end-user, i.e. the citizens. However its impact is often hidden to the general public in the methodology of its functioning as an indirect tax – i.e. the taxpayer is not obliged to pay this tax personally at the appropriate revenue authority. This will be done by the respective VAT registered company instead by Svátková et al. (2007).

Hence this tax is becoming not only an important tool of the state budget income but also an important political tool, although its use in a political fight is more complicated due to the fact that the general public is often not able to perceive the pros and cons resulting from the change of the tax rate, unlike for example the income tax of natural persons. From the theoretical point of view it is necessary to distinguish horizontal and vertical tax equity. Horizontal equity means that the individuals with same incomes should pay same taxes, where vertical equity means that the individuals with higher incomes should pay higher taxes than the individuals with lower incomes. The quantification of this point of view is quite complicated; there is an analysis of the Act of Income Tax in this article.

2. Methodology and Data

This paper is based on the data collected in the pilot survey of the project "The Causalities of Tax Incidence", where the respondents answered among others the questions about tax equity and tax knowledge. The authors of this article are presenting results from this questionnaire survey. The basic areas solved in this paper are focused on the answers to the following questions.

Is, according to the respondents' opinion, the tax system in the Czech Republic equitable? What are the main problems of the tax system in the Czech Republic?

The important part of tax issues, not only in this article, is general awareness of taxes. Tax literacy, as a basic part of knowledge-based economy, is analyzed in this research through the questions related both to the opinion on the main purpose of taxes, and to the explanation of terms direct and indirect taxes.

The total amount of respondents is 293, where 160 are men and 133 women. According to age, the most numerous group is 21 – 25 years old (105 respondents), then 31 – 40 years old (40 respondents), 41 – 50 years old (34 respondents), 26 – 30 years old (32 respondents), 51 – 60 years old (29 respondents), 61 and older (29 respondents) and the last group 15 – 20 years old (24 respondents). According to education, the most numerous group has high school "HS" education (145 respondents), then university-educated "C/UNI" (93 respondents), then trade schools graduates "TS" (41 respondents) and 14 respondents have elementary education "EE".

The respondents are also viewed in the questionnaire according to their position on the labour market. The most numerous group are employees in private sector (87 respondents), then students (82 respondents), employees in public sector (55 respondents), retirees (27 respondents), entrepreneurs (23 respondents), unemployed (5 respondents) and then other positions (14 respondents), such as mothers on maternity leave, temporary workers or free-lance artists.

The questionnaire distinguishes respondents also according to the place of residence, the size of the municipality, the size of income, or the number of persons in the household. These criteria are used for the analysis of tax equity and the problems of tax system in the Czech Republic.

The authors of the article realize that the division of respondents does not reflect exactly the population structure in the Czech Republic. The structure of the surveyed could not be influenced in any way. With respect to this different division and also a relatively low number of respondents the presented results are not generalized but they are used for the conclusions drawn in this article.

3. Results and Discussion

The issue of respondents' view concerning tax equity was looked at from different perspectives within the questionnaire survey. The focus was on the age factor, attained education, respondents' position on the labour market as well as the amount of their monthly income. 291 respondents answered the question about tax equity in the Czech Republic by selecting yes/no option, see Figure 1.

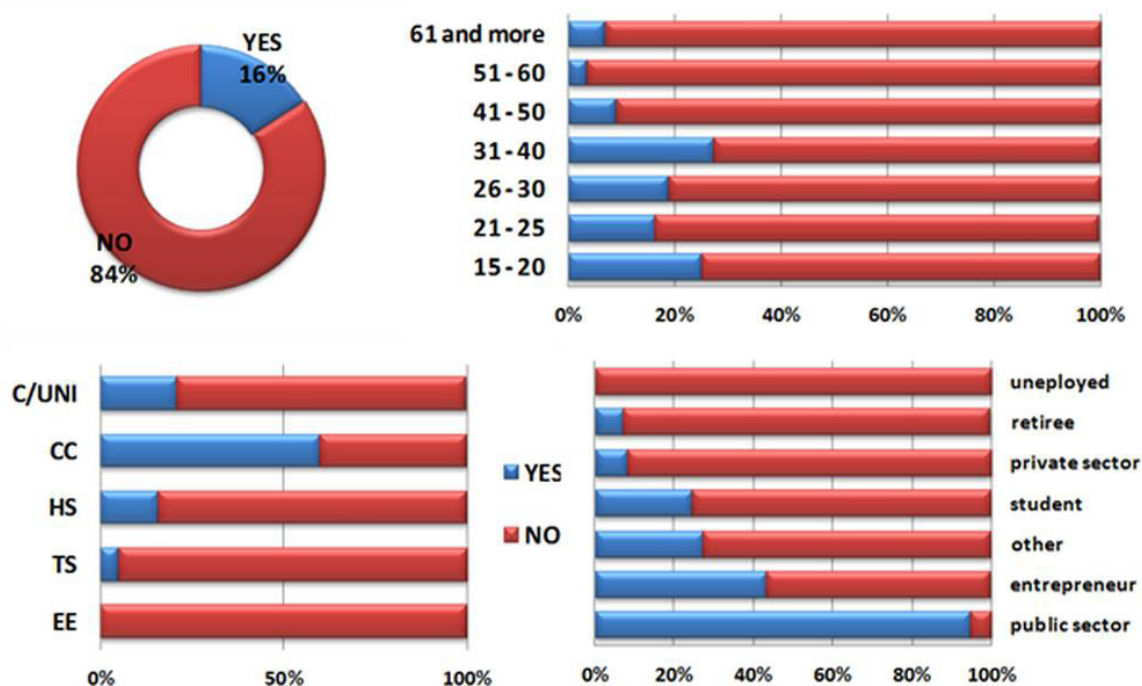


Figure 1a-b-c-d Equity of Czech Tax System according to 291 Respondents, their Age, their Education and their Position on the Labour Market

The distribution of the answers shows that the vast majority of inhabitants in the Czech Republic see the tax system as inequitable.

According to age, the group where the most respondents think the Czech tax system is equitable is between 31 – 40 years. The respondents in this group are actively working in private or public sector, and 27.5 % of them consider the tax system equitable. In the group of 15 – 20 years old, there are 25 % of respondents who considered the tax

system equitable. The group of 51 – 60 years old (1 respondent out of 29) and the group of 61 and older (2 respondents out of 29) evaluate the tax system as the least equitable.

At first sight, it seems that the group of graduates from community college “CC” has a clear opinion on the tax system equity. However, there are only 5 respondents in this group and 3 of them consider the tax system as equitable, therefore the weight of this sample is not significant. More significant results are in the group of university-educated respondents, where 19 out of 91 consider the tax system equitable, and in the group of respondents with high school education (22 from 140). On the other hand, the graduates with vocational certificates and graduates with elementary education perceive the tax system in the Czech Republic as inequitable. In the group of trade school graduates, only 2 respondents from 41 consider Czech tax system equitable, while all of 14 respondents with elementary education consider Czech tax system as inequitable.

Further analysis and questions aimed at expressing respondents' views on the main problems of the tax system in the Czech Republic. The analysis of the views focuses on so called “vertical and horizontal” equity which was accompanied by the questions whether respondents perceive the taxes as too high in the poorest or as too low in the richest group of the society. Respondents expressed their opinion on the complexity of the tax system with a number of exceptions and frequently changing rules. In the last part of the questionnaire they commented on the amount of value added tax and the amount of property tax.

The amount of taxation is an important fact for the analysis of opinions on tax equity. Almost 40 % of respondents consider too high taxes for poor income groups a significant problem while 46 % of respondents see as a significant problem too low taxes for rich income groups, see Figure 2.

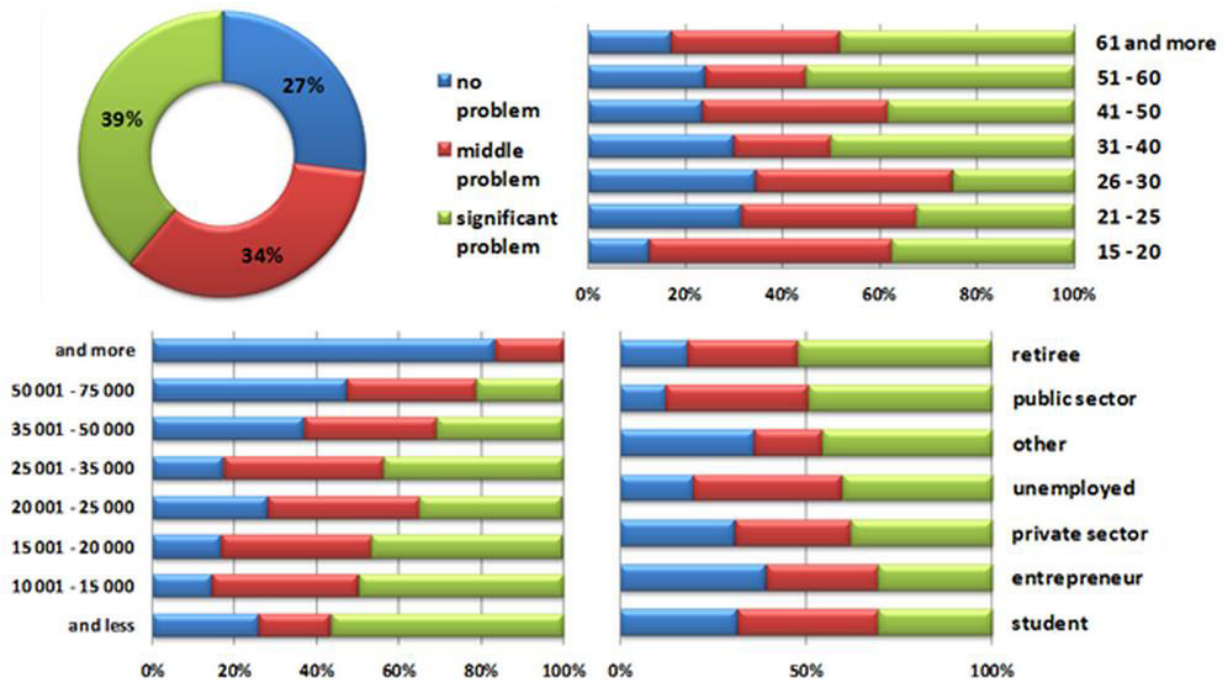


Figure 2 a-b-c-d The Issues of Too High Taxes for Poor Income Groups according to 291 Respondents, their Age, their Income Groups (CZK) and their Position on the Labour Market

High indebtedness for low-income groups of the population was perceived mainly by respondents over 50, significant is also the group between 30 – 40 years where 50 % of respondents consider high taxation a serious problem. From the monthly income perspective it is being confirmed that low-income households see taxes as high in relation to their income. As far as the position on the labour market is concerned the most critical groups are retirees and people working in public sector. Entrepreneurs are the least critical of the amount of taxes for low-

income groups. 40 % of respondents – entrepreneurs do not perceive the problem of high indebtedness of low-income groups at all. Education plays its role in the analysis of the view on the above mentioned facts. 71 % of respondents with elementary education perceive high taxes for low-income groups as a significant problem. Only 23 % of university educated respondents share the same opinion. As for the gender view, 43 % of women and 36 % of men perceive strongly the issue of high taxation of low-income groups.

The perception of low taxation of high-income groups is more significant among respondents over 30, see Figure 3. The connection with the amount of incomes is being confirmed again. This means that the problem of low taxation is perceived by 60 % of households having the monthly income under 10 thousand CZKs. The next important income category is households between 25 and 30 thousand CZKs per month. In this category 58 % of respondents see the problem of low taxation of the rich. Retirees perceive the inequity of tax system regarding low taxation of the rich the most strongly. 70 % of them consider it a significant problem. 71 % of respondents with elementary education and 32 % with university education see a big problem in low taxation of the rich. 49 % of women and 43 % of men assess low taxes for the rich as a considerable issue.

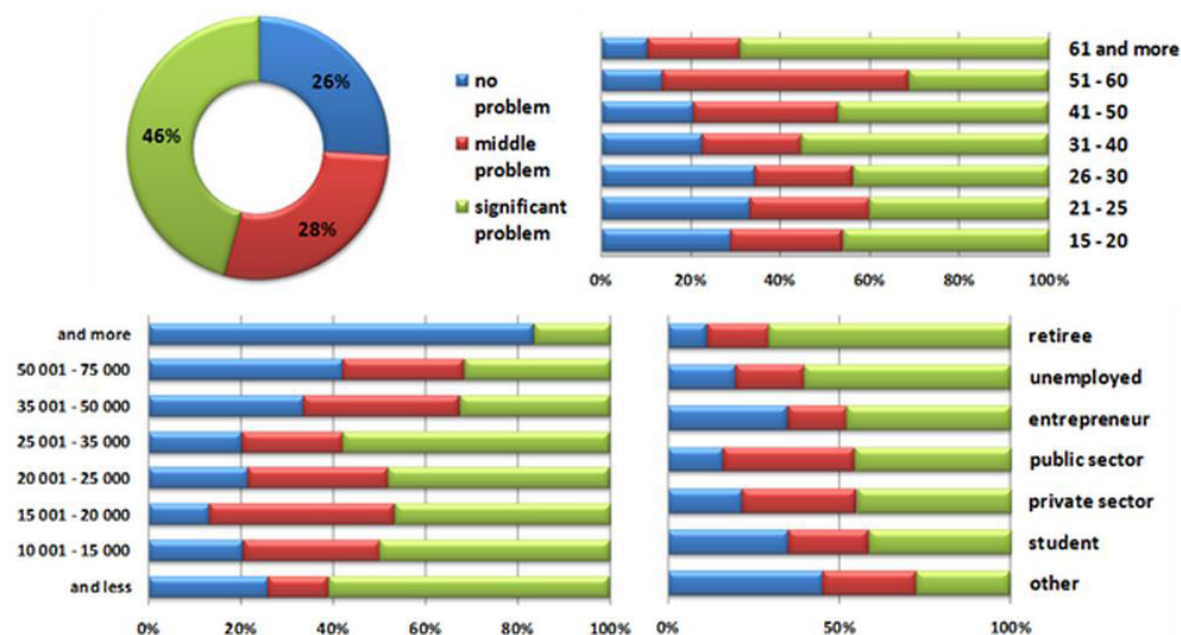


Figure 3a-b-c-d The Issues of Too Low Taxes for Rich Income Groups according to 291 Respondents, their Age, their Income Groups (CZK) and their Position on the Labour Market

To determine other problems of the tax system, in the questionnaire there are questions about frequent changes in taxes and a complicated system with lots of exceptions, see Figure 4. 68 % of respondents perceive the Czech tax system as complex, with plenty of exceptions and they consider this fact a very serious problem. They account for 92 % together with those who also see this problem but do not assess it as a serious one. This is the point which makes us think that Czech tax payers see the domestic tax system as inequitable. Age and education do not play an important role in assessing the above mentioned criterion. Respondents' position on the labour market suggests that the criterion of complexity of the Czech tax system is perceived the most by the unemployed (80%) and the least by retirees (55%). Due to the fact that these two groups are the least represented groups in the questionnaire survey, more general conclusions cannot be drawn from the above mentioned.

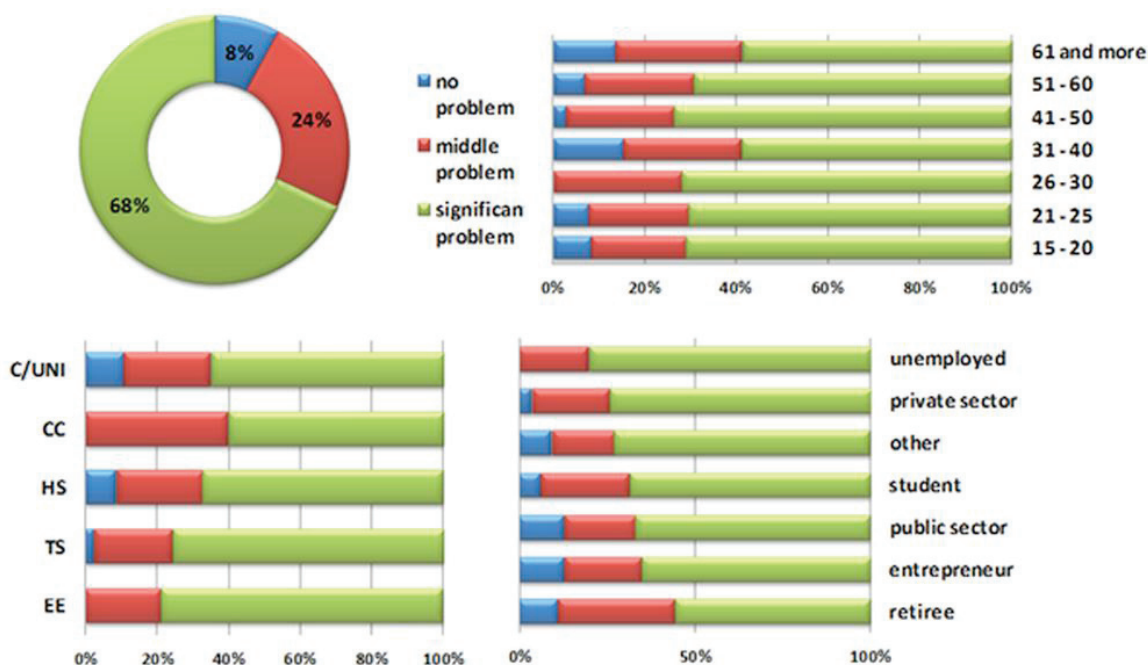


Figure 4a-b-c-d The Issue of Complicated System with lots of Exceptions according to 291 Respondents, their Age, their Education and their Position on the Labour Market

Inferring from the analysis of the respondents' answers in our questionnaire survey we can also say that the issue of frequent changes in tax laws is an obviously negative feature of the Czech tax system, see Figure 5. 68 % of respondents perceive this problem as a very serious one and 24 % of them assess this fact as a mid-level problem.

Frequent changes in tax laws are perceived as a significant problem by 76 % of respondents in the age category of 41-50 years. The age category of 15-20 is the least represented group in this clearly pronounced negative opinion. The factor of frequent changes in taxes is the most criticized by the unemployed (80 %), the least criticized by retirees (52 %). The differences in attained education attained do not show significant variance in the respondents' views on frequent changes in tax laws.

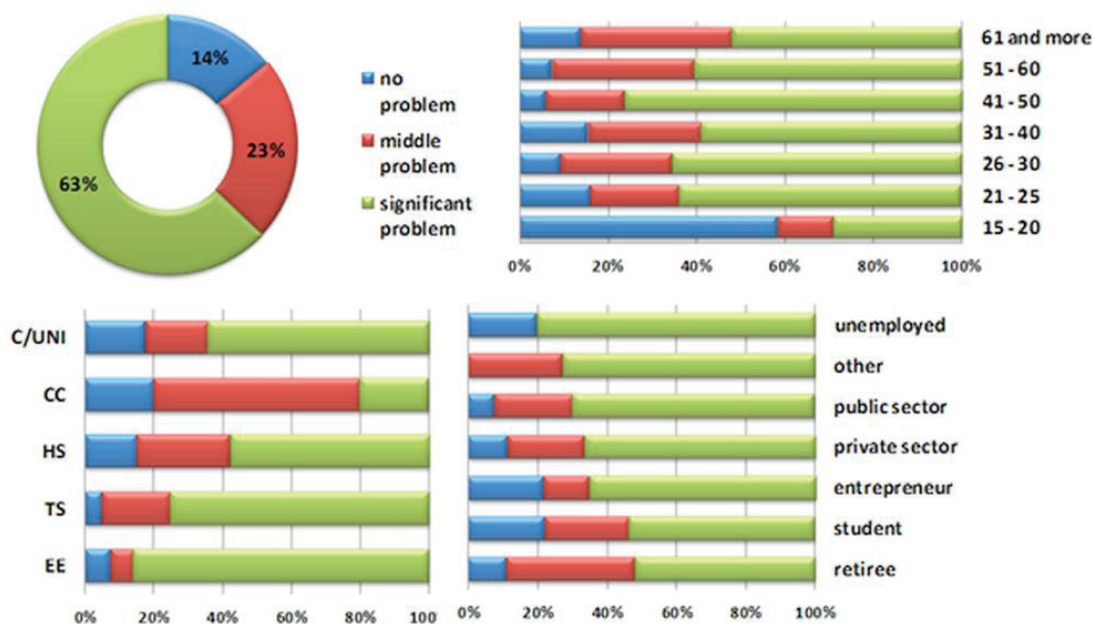


Figure 5 a-b-c-d The Issue of Frequent Changes in Taxes according to 291 Respondents, their Age, their Education, according to the Position on the Labour Market

4. Conclusions

The paper deals with some partial results of a questionnaire survey focusing on the issue of tax equity and the analysis of factors which affect the views of citizens-respondents on the tax system in the Czech Republic.

The subject of tax incidence thus reacts to the development of tax rates, particularly the value added tax, and the development of its collection which represents a considerable share of the tax income in total. In 2013 it was already 50.5 %.

The analysis has proved through the questionnaire survey that Czech respondents-tax payers perceive the tax system of the Czech Republic as an inequitable one. This opinion has been expressed by 84 % of respondents, i.e. 245 out of 291.

To determine the problems of the tax system the respondents were asked questions reacting to its complexity and a number of exceptions as well as frequent changes in taxes. The part of the analysis of opinions on the equity of the Czech tax system was constituted by the respondents' subjective view on the tax amount for low-income and high-income groups. In assessing the above mentioned questions the criteria of respondents' age, their level of attained education and their position on the labour market were applied. The amount of respondents' monthly household income was also taken into consideration.

Bearing in mind the fact that not all the categories were equally represented, the sample of respondents was limited and the questionnaire survey itself was carried out in 2012, the authors realize that the conclusions outlined in this article cannot be generalized.

It serves as an important starting point for further research plans, in particular the project "The Causalities of Tax Incidence and the Modeling of Tax Processes" which was launched in January 2014.

Acknowledgements

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